

WHAT IS CLAIMED IS:

1 Sub B' 1. A test set for testing a communications  
2 network comprising:  
3                 at least one signal input port;  
4                 test circuitry coupled to the at least one signal  
5 input port, the test circuitry receiving signals from the  
6 signal input port and generating test data;  
7                 a processor coupled to the test circuitry, the  
8 processor receiving test data and generating test results;  
9                 a user input device coupled to the processor, the  
10 user input device sending commands to the processor; and  
11                 a display operatively coupled to the processor,  
12 the display receiving and showing the test results,  
13                 wherein the test set is capable of performing  
14 line qualification and connectivity testing.

1                 2. The test set of claim 1 wherein line  
2 qualification includes transmission line tests, the  
3 transmission line tests includes at least one of digital  
4 multimeter tests, transmission impairment measurement set  
5 (TIMS) tests, and time domain reflection (TDR) tests.

1                 3. The test set of claim 1 wherein the display  
2 is a graphical display.

1                 4. The test set of claim 3 wherein the graphical  
2 display shows selected ones of the test results in a  
3 graphical form.

1                 5. The test set of claim 1 wherein the  
2 connectivity testing includes bit-error-rate testing and  
3 loopback testing.

1                 6. The test set of claim 1 wherein connectivity  
2 testing is performed using a predetermined transmission  
3 technology.

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1           7. The test set of claim 6 wherein the  
2 predetermined transmission technology is one of E1, T1,  
3 ISDN, DSL, HDSL, ADSL, and xDSL.

1           8. The test set of claim 1 wherein the test set  
2 is battery powered.

1           9. The test set of claim 1 wherein the test set  
2 is a portable unit.

1           10. The test set of claim 1 wherein the test set  
2 is a hand held unit.

1           11. The test set of claim 1 wherein the test set  
2 weighs less than three pounds.

1           12. The test set of claim 1 further comprising:  
2            a modem module operatively coupled to the  
3 processor, the modem module receiving and processing the  
4 test data and generating processed results, and  
5            wherein the display receives and displays the  
6 processed results.

1           13. The test set of claim 12 wherein the modem  
2 module includes  
3            a device for storing an identification value that  
4 identifies the modem module to the test set.

1           14. The test set of claim 12 wherein the modem  
2 module is configured to perform xDSL connectivity testing.

1           15. The test set of claim 12 wherein the modem  
2 module is configured to perform ATM connectivity testing.

1 Sub B   16. A telecommunications transmission test set  
2 comprising:  
3            at least one signal input port;

4           test circuitry coupled to the at least one signal  
5 input port, the test circuitry receiving signals from the  
6 signal input port and generating test data;  
7           a processor coupled to the test circuitry, the  
8 processor receiving test data and generating test results;  
9           a modem module operatively coupled to the  
10 processor, wherein the modem module, when directed,  
11 receives and processes the test data to generate processed  
12 results, and wherein the processor generates the test  
13 results based, in part, on the processed results;  
14           a user input device coupled to the processor, the  
15 user input device sending commands to the processor; and  
16           a display coupled to the processor, the display  
17 receiving and displaying the test results,  
18           wherein the test set is configurable to perform  
19 line qualification or connectivity testing as selected by a  
20 command received from the user input device.

1           17. The test set of claim 16 wherein line  
2 qualification includes digital multimeter tests, time  
3 domain reflection tests, and transmission line impairment  
4 tests.

1           18. The test set of claim 16 wherein  
2 connectivity testing includes bit-error-rate testing and  
3 loopback testing.

1           19. The test set of claim 16 wherein  
2 connectivity testing can be performed using a predetermined  
3 transmission technology.

1           20. The test set of claim 16 wherein the test  
2 set is a portable unit.

1           21. The test set of claim 16 wherein the test  
2 set is a hand held unit.

1       Sub B3  
2           22. A test set for testing a communications  
2 network comprising:

3           a master tester unit for receiving a signal from  
4 the communications network and processing the signal to  
5 produce intermediate results; and

6           a modem module coupled to the master tester unit,  
7 wherein the modem module receives and processes the  
8 intermediate results and provides the processed results to  
9 the master tester unit,

10          wherein the test set is configurable to perform  
11 line qualification and connectivity testing, and wherein  
12 the master tester unit displays the processed results.

1           23. The test set of claim 22 wherein the master  
2 tester unit includes

3           a graphical display for showing the test results  
4 in graphical form.

1           24. The test set of claim 22 wherein the modem  
2 module includes

3           a memory for storing an identification value that  
4 identifies the modem module to the master tester unit.

1           25. The test set of claim 22 wherein the modem  
2 module determines a maximum transmission rate on the  
3 communications network based on the processed results.

1           26. A hand-held device for testing  
2 communications networks comprising:

3           at least one signal input port;  
4           test circuitry coupled to the at least one signal  
5 input port, the test circuitry receiving signals from the  
6 signal input port and generating test data;

7           a processor coupled to the test circuitry, the  
8 processor receiving test data and generating test results;

9           a user input device coupled to the processor, the  
10 user input device sending commands to the processor; and  
11           a display coupled to the processor, the display  
12 receiving and displaying the test results.

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1           27. A method for graphically displaying test  
2 results of a test of a digital communications network  
3 comprising the steps of:

4           receiving signals from at least one signal input  
5 port, the signals being responsive to the test being  
6 conducted;

7           processing the signals to generate test results;  
8 and,

9           displaying the test results in graphical form,  
10 wherein the test can be one of line qualification  
11 or connectivity test of the digital communications network.

A<sub>1</sub>d  
A<sub>2</sub>d  
Q<sub>1</sub>d   B<sub>6</sub> >